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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,963	02/14/2002	Stanford W. Crane JR.	9161.018.00-US	8319
30827	7590	12/23/2004	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			STAHL, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/073,963

Applicant(s)

CRANE ET AL.

Examiner

Mike Stahl

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-52, 55-62, 64-79 and 82-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-52, 55 and 83 is/are allowed.
- 6) ☒ Claim(s) 56-59, 64-66, 68, 69, 73, 74, 76, 77, 84 and 85 is/are rejected.
- 7) ☒ Claim(s) 60-62, 64, 67, 70-72, 75, 78, 79 and 82 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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This Office action is in response to the amendment filed October 5 2004. All rejections and informality objections are withdrawn in view of the amendment and accompanying remarks. The supplemental declaration, which now includes the citizenship and residence information for all of the present inventors, is accepted. Claims 1-52, 55-62, 64-79, and 82-85 remain.

### *Claim Objections*

Claim 64 is objected to because it refers to "said sheath" but no sheath is recited in parent claims 85 or 56. This objection could be overcome by replacing "material" with "sheath" in claim 85, or by replacing "sheath" with "material" in claim 64.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 56, 58, 65-66, 69, 74, 76-77, and 84-85 are rejected under 35 U.S.C. 102(b) as being anticipated by Kluitmans et al. (US 5005178).

Claim 56: Kluitmans discloses in figs. 6-7 an optoelectronic packaging assembly comprising a submount (including the sidewalls SW1-SW4); a plurality of transmission line pins 1-4, 6-9, 11-14 extending from an interior of the submount to an exterior of the submount, a portion of at least one transmission line pin 11 being electrically shorted to the submount (via

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connection to modified guide pin **10** which is itself electrically coupled to the sidewalls); and an optoelectronic device **LD** disposed within the submount and electrically shorted to a portion of at least one transmission line pin **9**.

Claim 58: The transmission line pins **1-4, 6-9, 11-14** mentioned above have circular cross sections.

Claim 84: The Kluitmans package further includes a base **B** and a cover **T** (see fig. 1).

Claim 69: The cover **T** as depicted in fig. 2 includes a relief (i.e. the thinned portion which overlaps the sidewalls).

Claims 76 and 77: The Kluitmans package includes a thermoelectric cooler **TEC**, which fits on base **B**.

Claim 74: The package includes an optical input receptacle **FT** for retaining an optical fiber **F**.

Claim 85: Each transmission line pin **1-4, 6-9, 11-14** includes an inner conductor; a dielectric material surrounding the inner conductor; and an outer conductive material surrounding the dielectric material (col. 3 lns. 43-47). In this case, the outer conductive material is provided by base **B**.

Claims 65 and 66: The inner conductor of each of the plurality of transmission line pins **1-4, 6-9, 11-14** is exposed within the interior of the submount and also exterior to the submount.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 57, 59, 64, 68, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kluitmans et al. (cited above).

Claim 57: Kluitmans does not teach that the transmission line pins 1-4, 6-9, 11-14 have rectangular cross sections. However, this is not considered a critical aspect of the Kluitmans device. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used any appropriate cross-sectional shape for the transmission line pins in the Kluitmans device, for example, to match the shape of the pin receptacles provided in a substrate to which the Kluitmans device is mounted. It is also noted that since pins 5 and 10 have a rectangular shape inside the module, a skilled person may have considered it expedient to

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provide all the pins of the device with the same shape (while maintaining the necessary insulation around pins **1-4, 6-9, 11-14**).

Claim 59: Kluitmans teaches that the pin arrangement conforms to a standard dual inline package layout (col. 3 lns. 35-40). However, Kluitmans does not teach away from using other pin configurations. Accordingly it have been obvious to a person skilled in the art at the time the invention was made to have bent the pins to run alongside the base as needed in order to beneficially accommodate connection of the Kluitmans device to whatever type of pin socket is available in the external system (i.e. not limiting the device to a DIP socket).

Claims 68 and 73: Kluitmans does not specifically disclose fins on the cover **T** or base **B**. However, it is old in the art to include fins on external surfaces of packages in order to increase the surface area available for heat dissipation. Accordingly it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have fabricated the cover and the base of the Kluitmans module with fins in order to advantageously provide heat dissipation for the package.

Claim 64: The sheath material disclosed by Kluitmans is glass. However, a skilled person would have known that any compatible insulating material would suffice. Thus it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have used PTFE instead of glass, for example, since a PTFE sheath can be processed at lower temperatures than a glass sheath.

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*Allowable Subject Matter*

Claims 1-52, 55, and 83 are allowed. Applicant amended independent claims 1 and 30 to include features which are not disclosed or suggested by the previously applied references.

Claims 60-62, 67, 70-72, 75, 78-79, and 82 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 60, Kluitmans specifically teaches that the submount, base, and cover are made from metal (col. 3 lns. 28-31). There is no teaching or suggestion to use a nonconductive plastic as an alternate material. Claims 61 and 62 depend from claim 60.

As to claim 67, Kluitmans does not teach or suggest providing the cover T with interior shield walls.

As to claim 70, there is no teaching or suggestion in Kluitmans to include a cavity defined by walls in the cover T. Claim 71 depends from claim 70.

As to claim 75, Kluitmans discloses a thermally conductive plate CP but does not teach or suggest that it is insert molded. Claims 78 and 79 depend from claim 75.

As to claim 82, Kluitmans does not teach or suggest that the base includes a flange with mounting holes. It is noted that the flange FL (fig. 1) is not part of the base B. There is no clear motivation to modify the base to include such a flange and to provide it with mounting holes.

As to claim 72, Kluitmans fails to disclose or suggest any external ground bumps disposed between the transmission line pins.

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***Conclusion***

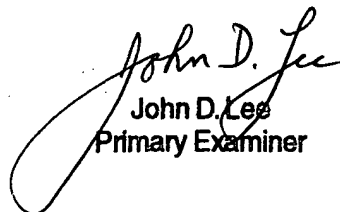
Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Mike Stahl at (571) 272-2360. Official communications which are eligible for submission by facsimile and which pertain to this application may be faxed to (703) 872-9306. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the technical support staff supervisor at (571) 272-1626.

MJS

Michael J. Stahl  
Patent Examiner  
Art Unit 2874

  
John D. Lee  
Primary Examiner

December 15, 2004